

Appendix E

Emission Limit Conversion Procedure

The following procedure shall be used to convert emission limits expressed as lb VOC/gallon coating less water and exempt solvents to limits expressed as lb VOC/gallon solids. This example uses the emission limit of 3.7 lb VOC/gallon coating.

Assume VOC density of the 'Presumptive' RACT coating is 7.36 pounds per gallon because this same value was used to determine the "Presumptive" recommended RACT emission limits from volume solids data.

$$\frac{(3.7) \text{ LB VOC}}{\text{GAL COATING LESS WATER}} \times \frac{1 \text{ GAL VOC} \times 100}{7.36 \text{ LB VOC}} = (50) \text{ VOL\% VOC}$$

$$100 - (50) \text{ VOL\% VOC} = (50) \text{ VOL\% SOLIDS}$$

$$\frac{(3.7) \text{ LB VOC}}{\text{GAL COATING LESS H}_2\text{O}} \times \frac{100 \text{ GAL COATING}}{(50) \text{ GAL SOLIDS}} = \frac{(7.4) \text{ LB VOC}}{\text{GAL SOLIDS}}$$

See "A Guideline For Surface Coating Calculations" EPA - 340/1-86-016 for additional examples.

The following table lists equivalent mass VOC/volume solids emission limits for various coating operations.

Equivalency Data for Surface Coating Processes
(VOC Density = 7.36 lb/gal)

Industrial Finishing Categories	Lb VOC per Gallon Coating less water	Lb VOC per Gallon of Solids	Kg VOC per Liter of Solids
<i>Can Industry</i>			
Sheet Basecoat (Exterior and Interior) and over-varnish; two-piece can exterior (basecoat and over-varnish)	2.8	4.5	0.55
Two- and three-piece can interior body spray, two-piece can	4.2	9.8	1.19

exterior end spray or roll coat			
Three-piece can side-seam spray	5.5	21.7	2.61
End sealing compound	3.7	7.4	0.88
Any additional coats	4.2	9.8	1.19
<i>Coil Coating</i>			
Any coat	2.6	4.0	0.48
<i>Fabric Coating</i>			
Fabric coating line	2.9	4.8	0.58
Vinyl coating line	3.8	7.9	0.93
<i>Paper Coating</i>			
Coating line	2.9	4.8	0.58
<i>Automotive and Light-Duty Truck Assembly Plant</i>			
Primer (electro- deposition) application, flashoff area and oven	1.9	2.6	0.31
Topcoat application, flashoff area and oven	2.8	4.5	0.55
Final repair application, flashoff area and oven	4.8	13.8	1.67
<i>Metal Furniture</i>			
Coating line	3.0	5.1	0.61
<i>Magnet Wire</i>			
Wire coating operation	1.7	2.2	0.26
<i>Large Appliances</i>			
Prime, single, or topcoat application	2.8	4.5	0.55

area, flashoff area and oven			
<i>Miscellaneous Metal Parts and Products</i>			
Air-dried items	3.5	6.7	0.80
Clear-coated items	4.3	10.3	1.25
Extreme performance coatings	3.5	6.7	0.80
Other coatings and systems	3.0	5.1	0.61
<i>Plastic Film Coating</i>			
Plastic film coating line	2.9	4.8	0.58